Vol. XXIV No.1 February 1999

NEW JERSEY DEPARTMENT OF AGRICULTURE

FOREST PEST REPORTER

Division of Plant Industry PO Box 330 Trenton, NJ 08625-0330 609-292-5440

SPECIAL REPORT ON 10TH USDA RESEARCH FORUM ON GYPSY MOTH AND OTHER INVASIVE SPECIES JANUARY 19 -22, 1999 - ANNAPOLIS, MARYLAND

ASIAN LONGHORNED BEETLES INVADES CHICAGO SUBURBS

There is great concern among USDA scientists that America's ornamental trees and commercial lumber and maple syrup industries are threatened by an invasion of the alien Asian long-horned beetle, *Anoplophora glabripennis*. The beetles attack maples, horsechestnut, willows, poplars and elms. This highly injurious wood-boring pest was first found in Brooklyn in 1996. During the summer of 1998 beetles were found at seven separate sites on street trees in suburban Chicago and on isolated interceptions of wood crating materials at ports in California, Illinois, Indiana, North Carolina, Texas and Washington. Established populations can only be controlled by cutting, chipping and burning the beetle infested trees. In Chicago, there are now 30 crews working to remove beetle infested trees before spring arrives.

In 1998, a total of 234 wood pests were intercepted in crating materials from China as compared with 22 from Germany, 18 from India, 14 from Italy, 11 from France, 12 from Russia, seven from Japan and one from Korea. Based on these findings, the U.S. Department of Agriculture issued emergency regulations in September, which became effective on December 17, 1998, requiring all solid wood packing material from China to be heat treated, fumigated or otherwise chemically treated BEFORE ENTRY into United States ports. On January 19, 1999, another rule was introduced which would require all exporting countries using wood packing materials to treat before entry into United States ports.

The USDA has remained firm despite protests from the Chinese delegation and additional inspectors have been assigned to the ports of Portland, Oakland, Long Beach, Elizabeth and Seattle to make sure importers are in compliance. There has been excellent cooperation from Canada, where similar rules have been adopted to prevent foreign ships with cargo crated in wood packing material from entering their ports without treatment.

PINE SHOOT BEETLES FOUND KILLING NATIVE PINES IN ONTARIO

Surveys in the fall of 1998 for the Asian longhorned beetle in the interior forests of Ontario, Canada, turned up another unexpected alien guest, the Pine Shoot Beetle, *Tomicus piniperda*. Not only were the pests found well outside the quarantined area but they were also observed causing severe mortality, up to 100% in some native white pine stands. Both large and small diameter trees were attacked. Taylor Scarr of the Ontario Ministry of Natural Resources expressed concerns about severity of the damage and the fact that the pine shoot beetle infestation now encompasses large areas of native pines in Ontario and could present a grave problem if it were to spread to other provinces.

Seven sites were examined, including stands of white, Scotch and jack pines, all showing signs of severe attack. Based on growth ring examination, it was estimated that the pest may have started damaging the stands as much as 10 years ago. Unlike the United States, Canada implemented no controls in the area and the unchecked populations grew rapidly. First, they infested the small shoots in the upper crown area and, when they weakened or killed the trees, they then moved down into the main trunk where they bored through the bark into the cambium layer, creating massive numbers of breeding chambers where eggs were deposited. Landowners in the area were unaware of the causal agent killing the trees, so they simply cut out the dead trees and stacked them near the stands providing excellent breeding areas for the continued growth of the outbreak.

This unchecked outbreak with the associated tree losses could drastically change how this pest is viewed in the future in terms of its potential threat to pine forests and the strategies used to contain, control or eradicate the beetle.

PANEL DISCUSSION ON FUTURE OF GYPSY MOTH MANAGEMENT IN NORTH AMERICA

The panel consisted of three scientists who described three different views of how gypsy moth infestations should be managed in the future. After each expressed their views, the discussion was opened to the audience for debate.

Panelist Joseph Elkinton from the University of Massachusetts said that the "government should get out of area - wide spraying" and "let nature take its course."

Panelist Sandy Liebhold, USDA-FS, Morgantown, West Virginia, stated that huge suppression programs should not be undertaken because they are too costly and detrimental to non-target lepidoptera. He also said that increased efforts to eradicate the gypsy moth along the leading edge is the best way to manage future gypsy moth programs.

The third panelist, Kenneth Raffa, University of Wisconsin, supported attempts to control and/or eradicate gypsy moth infestations in Wisconsin but questioned the use of introducing the white-footed mouse as a gypsy moth predator because it is a major vector of lyme disease. He also noted

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that the *Bacillus thuringiensis, (B.t.)* treatments would impact non-target lepidoptera.

During the open discussion, John Kegg, chief entomologist with the New Jersey Department of Agriculture (NJDA), addressed Elkinton's comment by stating that as long as the control program was voluntary and natural biological control sprays were included in the program, the federal government should continue to support gypsy moth suppression programs in residential and recreational areas. He said that in New Jersey, the gypsy moth control program has been widely accepted for over 25 years and has saved tens of thousands of valuable oak trees growing around homes and in high - use recreational areas.

Kegg also addressed Liebhold's comment that "huge gypsy moth suppression programs have a detrimental impact on non-target lepidoptera, " indicating that, because treatment programs rarely involve more that 10 percent of the total gypsy moth infested area, the remaining untreated areas would serve as a natural reservoir for the non-target lepidoptera. These populations can rapidly move back into the treatment areas. This statement was supported by Michael McManus of the US Forest Service, Northeastern Experiment Station, who had data which showed that, during the past 30 years of gypsy moth outbreaks, no more than 10 percent of the total infested area in the United States was ever treated to control the pest in a single year.

Lastly in addressing Raffa's comments, Kegg noted thats 14 years ago the NJDA dropped the use of chemical sprays due to public concerns and switched entirely to *B.t.*, which was more acceptable to the public and environmental groups. The concern in some states over the impact of *B.t.* on non-target lepidoptera is a new issue, which threatens to limit programs designed to control the gypsy moth.

Kegg suggested that perhaps impact studies should be more focused on the human health issues created by the potential increased incidence of lyme disease rather than on the loss of a non-target lepidoptera. The impacts of repeated gypsy moth defoliations in opening forest canopies through dieback and loss can result in a substantial increases in understory growth which provides a more favorable environment for deer and small mammal populations which can carry, and act as vectors of, lyme disease. Perhaps this is an area that should be investigated by the scientific community as another possible impact of gypsy moth outbreaks.

GYPSY MOTH SUPPRESSION PROGRAM STAFF:

Bureau Chief - John Kegg
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